Packet-Radio Digest   Fri, 12 Mar 93   Volume 93 : Issue   65

Today's Topics:
                            (none)
                    Am I right or wrong?
                          Baycom
                Baycom and Digicom modems
                Dual screen with Desqview
                 Entering packet (3 msgs)
                 just wondering? (5 msgs)
              MFJ-1270B: Handshaking Problem
                  Motorola R-Net products.
                        Santec ST-142
              Software Protocol Analyzer? (2 msgs)
                   WANTED: KA9Q source code
     what are pros/cons of Baycom vs. Poor Man's Packet (2 msgs)

Send Replies or notes for publication to: <Packet-Radio@UCSD.Edu>
Send subscription requests to: <Packet-Radio-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Packet-Radio Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/packet-radio".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 11 Mar 93 04:10:22 GMT
From: news-mail-gateway@ucsd.edu
Subject: (none)
To: packet-radio@ucsd.edu

Received: from wb7tpy by wb7tpy (Tcp/Ip Gate) with SMTP
     id AA1049 ; Wed, 10 Mar 93 21:08:58 MST
X-Forwarded-To: N7MRP
Date: 11 Mar 93 04:06:00 UTC
Status: Read

Message-Id: <179_n7mrp1@n7mrp.bbs>
From: n7mrp@n7mrp.az.usa.na
To: gate@wb7tpy.az.usa.na
Subject: CROWD Node Software
X-BBS-Msg-Type: P

R:930311/0406z 179@:N7MRP.AZ.USA.NA Phx Z:85016

Internet:Packet-Radio@UCSD.EDU

Does anyone know where I can FTP the CROWD node software that is used by groups
such as N.E.D.A. and N.A.P.R.A.

This software is a multi-tasking Conference node that works within Ax.25 Node
stacks on TNC 2's

Thanks de Dan
N7MRP@N7MRP.AZ.USA.NA
or
GATE@WB7TPY.AMPR.ORG
First line of text:
PACKET:N7MRP@N7MRP.AZ.USA.NA

Date: 11 Mar 93 10:47:12 EST
From: titan.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa
Subject: Am I right or wrong?
To: packet-radio@ucsd.edu

In article <113189@netnews.upenn.edu>, cjn@vaal.cpr.upenn.edu (Christopher
Nagel) wrote:
>   I just read 30 posts and the FAQ, and I still don't quite get it. May I ask
> you to disillusion me (or get me started)?

Chris-

You seem to understand part of the technical side of Packet Radio. The
scenario with you and your friend typing messages, is certainly possible.
However, that's not all there is to it.

First, most of the people who participate here are Ham Radio Operators,
licensed by the FCC. You didn't mention whether you and/or your friend
were licensed or not. Both of you would need a Ham license to use the
system.

Since many Hams have both a radio transceiver and a computer, the only
additional expense would be for a TNC. The cost could range from around
$50 for one of the Baycom or "Poor-Man's-Packet" setups, to around $1000
for the most sophisticated TNC. A typical 1200 baud TNC to use with your
Two Meter Ham Transceiver, might run around $150.

Although the 1200 baud TNC sends "packets" at that rate, the actual data
transmission rate can be much slower. Many users occupy the same radio
frequency, each taking their turn to send one packet at a time. Sometimes
the packets collide, and have to be re-sent. Time delays can be so great
that file transfer programs like X-Modem, time-out before any significant
amount of data can be transfered.

There is probably a Ham Radio Club at your school. I suggest you make
contact with club members to find out more about Packet, as well as Ham
Radio in general.

73, Fred, K4DII

fred-mckenzie@ksc.nasa.gov

Date: 11 Mar 93 15:59:00 GMT
From: ghost.dsi.unimi.it!barp@tcgould.tn.cornell.edu
Subject: Baycom
To: packet-radio@ucsd.edu

Ciao,

someone can tell me if exist a software that can allow the yapp protocol
to upload and download files with a baycom interface and without a tnc ??

Thank you in advance. 73's

IK2QCC Andrea   Internet: barp@ghost.dsi.unimi.it

Date: Thu, 11 Mar 93 13:14:09 EST
From: vnet.ibm.com@uunet.uu.net
Subject: Baycom and Digicom modems
To: packet-radio@ucsd.edu

Somebody told me that the Baycom modem (for PC use) and the Digicom
modem (for Commodore C64 use) are almost the same. Is that
correct?. What kind of addaptation is needed?

73 de,

Hugo (OA4HV)
Lima, Peru
hugo@vnet.ibm.com
oa4hv@w2xo.wpa.pa.usa.noam (Internet/packet gateway)

Date: 11 Mar 1993 13:32:05 GMT
From: hpsanaeo!glenn@hplabs.hp.com
Subject: Dual screen with Desqview
To: packet-radio@ucsd.edu

I was wondering if anyone in this group was running a dual-screen
packet installation under Desqview?

My current installation allows me to run Packet on the monochrome
display while running DOS applications of the VGA display while in
Desqview. I seem to be having some problems, and would like to
confer with others that have already found solutions for this
type of an environment.

Thanks,

Glenn

--
Glenn V. Jensen
WA6BJQ

internet: glenn@hpsanaeo.nsr.hp.com

Date: 11 Mar 1993 21:46:29 GMT
From: sun-barr!west.West.Sun.COM!news2me.EBay.Sun.COM!exodus.Eng.Sun.COM!
appserv.Eng.Sun.COM!concertina!fiddler@decwrl.dec.com
Subject: Entering packet
To: packet-radio@ucsd.edu

We're not there yet...but we're studying for the tech.

We (whole family, #1 daughter about to head out to school

halfway across the state next year) figure on using packet
radio to keep in touch during the school year, avoiding
both AT&T bills and U.S. mail service.

Having limited funds, what I'd like to know is if it is
generally possible to connect TNC's to handheld transceivers.

I'm assuming that if it can be done, that I will also expect
to be using something other than the default antenna that
comes with the HT. The computers we already have, too.

Any other warnings would be useful.

     thanks

--

| Some things are too important not to give away |
| to everybody else and have none left for yourself. |
|---------------------- Dieter the car salesman-----|

Date: Thu, 11 Mar 1993 23:51:35 GMT
From: usc!howland.reston.ans.net!gatech!taco!djbarnes@network.UCSD.EDU
Subject: Entering packet
To: packet-radio@ucsd.edu

In article <lpvcplINN5qg@appserv.Eng.Sun.COM>, fiddler@concertina.Eng.Sun.COM
(steve hix) writes:
> We're not there yet...but we're studying for the tech.
>
> We (whole family, #1 daughter about to head out to school
> halfway across the state next year) figure on using packet
> radio to keep in touch during the school year, avoiding
> both AT&T bills and U.S. mail service.
>
> Having limited funds, what I'd like to know is if it is
> generally possible to connect TNC's to handheld transceivers.
>
> I'm assuming that if it can be done, that I will also expect
> to be using something other than the default antenna that
> comes with the HT. The computers we already have, too.
>
> Any other warnings would be useful.

I would be interested in this info as well.....

```
*************************************************************************
Donald Barnes          |          "You can think about it, but don't
djbarnes@eos.ncsu.edu     |
Computer Engineering      |
N.C. State University     |          do it."--Smokey
*************************************************************************

------------------------------

Date: Fri, 12 Mar 1993 06:17:07 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!rsiatl!ke4zv!
gary@network.UCSD.EDU
Subject: Entering packet
To: packet-radio@ucsd.edu

In article <lpvcplINN5qg@appserv.Eng.Sun.COM> fiddler@concertina.Eng.Sun.COM
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>both AT&T bills and U.S. mail service.
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>Having limited funds, what I'd like to know is if it is
>generally possible to connect TNC's to handheld transceivers.
>
>I'm assuming that if it can be done, that I will also expect
>to be using something other than the default antenna that
>comes with the HT.  The computers we already have, too.
>
>Any other warnings would be useful.

If you already have the HTs, you can attempt to use them. But
if you haven't bought radios yet, a regular mobile/base type
of radio would be better. You can pick up suitable VHF radios
at hamfests for as little as $50-$100. Radios like the IC-22A,
KDK144, Motorola Maxar, or GE MVP will work wonderfully well.
Using a well shielded commercial grade mobile rig is really
the best choice, but many people do manage to get HTs to
work for packet.

If you're already stuck with HTs, you can use them if there
are nearby nodes that you can hit. Do use a divorced antenna,
the rubber dummy loads don't get out well, and you will likely
have problems with RF feedback into the TNC due to the close
coupling of the antenna and the TNC to radio cable. Use good
```

quality shielded cables between the computer, TNC, and radio.
If you're using a laptop that's probably all you need to do.
But if you are using a typical clone PC you're going to have
to do some shielding of the computer and especially the
monitor. Most RFI is generated by the sweep circuits of the
typical Tiawanese or Korean monitor. As a last resort, you
can use a *long* cable to the radio and locate it with the
antenna at a location remote from the computer.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

Date: Thu, 11 Mar 1993 09:52:38 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!
gary@network.UCSD.EDU
Subject: just wondering?
To: packet-radio@ucsd.edu

In article <14580044@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom)
writes:
>In rec.radio.amateur.packet, gary@ke4zv.uucp (Gary Coffman) writes:
>
>>In article <dlawlor.731579198@morgan> dlawlor@morgan.ucs.mun.ca (Doug Lawlor)
writes:
>>>I am just wondering if anyojne could point me to a list of good
>>>recamended tncs? I am in the market for a tnc and am wondering which
>>>ones to avoid.
>
>>For *packet only*, I would recomend a true clone of the TAPR 2.
>>The MFJ1270B is the default.
>
>I had always heard that the MFJ1270B is a true TNC2 clone. Well
>it is and it isn't. The PC board has been modified to add a few new
>features (like an HF tuning indicator.) And the software has been
>extensively modified to add new features (like a bulletin board).
>A friend noted some compatibility problems when he tried to use
>a 1270 with one of the popular DX contest programs. And I have
>found out that, apparently, the XON/XOFF serial interface protocol
>got broken somewhere in the software modification process.
>
>Does anybody make a TRUE unvarnished TAPR TNC2 clone?

Well the MFJ1270B doesn't have the HF tuning indicator, that's the
MFJ1274. It does have provision to be driven with TTL levels as
well as RS232 levels in order to ease use of Commodore C64 machines,
but that's an unimportant change.

As far as the firmware is concerned, you can replace it with a TAPR
ROM if you like, but most serious packet users chunk it entirely
and replace it with a K3MC KISS only ROM or a GRAPES KISS56 ROM.
Then NOS will never be surprised by a cmd: prompt.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

Date: 11 Mar 1993 18:50:20 GMT
From: ucsd.edu!brian@network.UCSD.EDU
Subject: just wondering?
To: packet-radio@ucsd.edu

alanb@hpnmdla.sr.hp.com (Alan Bloom) writes:
>Does anybody make a TRUE unvarnished TAPR TNC2 clone?

Sure, TAPR does. They'll sell you the circuit board and schematics and
a floppy with the manual and software on it for $30. Tell them you're
going to use it for 9600 bps only and they'll throw in a copy of my notes on
what parts you can leave out if you don't need the internal modem.
    - Brian

Date: Fri, 12 Mar 93 00:02:42 GMT
From: netcomsv!orchard.la.locus.com!prodnet.la.locus.com!atlas.la.locus.com!
dana@decwrl.dec.com
Subject: just wondering?
To: packet-radio@ucsd.edu

In article <14580044@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom)
writes:
>
>Does anybody make a TRUE unvarnished TAPR TNC2 clone?
>

>AL N1AL
>

Well, you could. If you buy the blank TAPR TNC-2 PC board for $30,
you could then a 100% true TNC-2 if you build it out...

Contact TAPR for details...

Dana

--
 * Dana H. Myers KK6JQ | Views expressed here are *
 * (310) 337-5136 | mine and do not necessarily   *
 * dana@locus.com DoD #466 | reflect those of my employer
     *
 * This Extra supports the abolition of the 13 and 20 WPM tests *

Date: Thu, 11 Mar 1993 20:24:44 GMT
From: usc!sdd.hp.com!hpscit.sc.hp.com!hplextra!hpl-opus!hpnmdla!
alanb@network.UCSD.EDU
Subject: just wondering?
To: packet-radio@ucsd.edu

In rec.radio.amateur.packet, gary@ke4zv.uucp (Gary Coffman) writes:

>In article <14580044@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom)
>writes:
>>
>>I had always heard that the MFJ1270B is a true TNC2 clone. Well
>>it is and it isn't. The PC board has been modified to add a few new
>>features (like an HF tuning indicator.) And the software has been
>>extensively modified to add new features (like a bulletin board).
>>A friend noted some compatibility problems when he tried to use
>>a 1270 with one of the popular DX contest programs. And I have
>>found out that, apparently, the XON/XOFF serial interface protocol
>>got broken somewhere in the software modification process.
>>
>>Does anybody make a TRUE unvarnished TAPR TNC2 clone?

>Well the MFJ1270B doesn't have the HF tuning indicator, that's the
>MFJ1274.

If you look on the pc board, you will see that the 1270B has the HF
tuning indicator (and some other circuitry) laid out on the board.
They just don't load the parts on the 1270B model.

AL N1AL

Date: Fri, 12 Mar 1993 06:03:15 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!rsiatl!ke4zv!
gary@network.UCSD.EDU
Subject: just wondering?
To: packet-radio@ucsd.edu

In article <14580046@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom)
writes:
>In rec.radio.amateur.packet, gary@ke4zv.uucp (Gary Coffman) writes:
>
>>In article <14580044@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom)
writes:
>>>
>>>Does anybody make a TRUE unvarnished TAPR TNC2 clone?
>
>
>>Well the MFJ1270B doesn't have the HF tuning indicator, that's the
>>MFJ1274.
>
>If you look on the pc board, you will see that the 1270B has the HF
>tuning indicator (and some other circuitry) laid out on the board.
>They just don't load the parts on the 1270B model.

That's right. If the parts aren't there, the circuit isn't there.
No big whoop.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

Date: Thu, 11 Mar 1993 13:37:31 GMT
From: rit!isc-newsserver!ultb!cep4478@cs.rochester.edu
Subject: MFJ-1270B: Handshaking Problem
To: packet-radio@ucsd.edu

In article <14580045@hpnmdla.sr.hp.com> alanb@hpnmdla.sr.hp.com (Alan Bloom)
writes:

>I recently bought an MFJ-120B TNC and am having trouble interfacing
>it to my terminal. Specifically the XON/XOFF protocol doesn't work.

The hardware handshaking is somehow screwed up, too, at least when compared
to a Tiny-2. When running NOS, if you have a full 25 pin serial cable, some
handshaking lines move around and cause delta-rlsd interrupts. On NOS
codes since ka9q0618 (it may be fixed now), this meant that characters came
out at a *VERY* slow rate, something like 4 characters per second. (This
was due to a bug in the async driver, in which the routine that started
async interrupts would force-feed the characters to the 8250 without tx
interrupts. The tx interrupts never started, since they were disabled by
some handshaking interrupt previously).

By the way, it worked fine with a three-wire interface. Furthermore, this
section of the code has been re-written and I am told is fixed. I haven't
verified this myself, because I only have TC 2.0. I posted this problem
to the net before, and not one other person claimed to see this behavior,
so I'm not sure that anybody else would notice if it wasn't fixed - I'll
post a detailed report as soon as I compile the new NOS.

Chris
--
Christopher E. Piggott, WZ2B   cep4478@ultb.isc.rit.edu
President   wz2b.ampr [44.69.0.1]
Rochester Institute of Technology   wz2b @ WB2PSI.#WNY.NY.USA.NA
Amateur Radio Club K2GXT   CEP4478@RITVAXA.BITNET

Date: 11 Mar 93 21:07:33 GMT
From: news-mail-gateway@ucsd.edu
Subject: Motorola R-Net products.
To: packet-radio@ucsd.edu

just looking at an ad in RF Design for these RF Modems. frequency range
specified from 403-430 and 450-470 MHz, 2 or 4 W, 9600 BPS.

seems like there should be (no, must be) a way to use these in amateur radio,
if the price is right. (probably some prohibition about the modulation
schemes [msk, dgmsk] in use with amateur radio, no doubt).

anybody know anything more about these boards?

bill n. wb9ivr

Date: 10 Mar 93 04:13:00 GMT
From: concert!rock!taco!mdhooper@decwrl.dec.com
Subject: Santec ST-142
To: packet-radio@ucsd.edu

I have an old (circa ~1986/7 or so) Santec ST-142 handheld 2-meter FM radio.
I does not currently work at all, but before it went totally dead,
the transmitter worked properly but the unit did not receive anything (trust
me). I have two questions:

Does anyone know if this old beast is worth anything?

Will a regular radio repair place be able to repair it (I have
  the schematics), or will I have to send it to Santec?

Post or e-mail, it doesn't matter to me.

-Mark

Mark Hooper
NC State University
Electrical and Computer Engineering

Date: Thu, 11 Mar 1993 21:12:02 GMT
From: usc!howland.reston.ans.net!gatech!ukma!hgpeach@network.UCSD.EDU
Subject: Software Protocol Analyzer?
To: packet-radio@ucsd.edu

Does anyone know of a software package that can analyze packets received
using a TNC in KISS mode?

We have a local packet-type signal that I would like to identify. It
appears to be 1200 baud, BEL-202 (1200/2200), but possibly non-NRZI. I
was hoping to locate something that could at least determine the call sign
of the packet station, not necessarily the information in the packet.
--
Harold G. Peach, Jr.   ><>   N4FLZ   _%   hgpeach@s.ms.uky.edu

----

Date: Fri, 12 Mar 1993 06:07:23 GMT
From: usc!howland.reston.ans.net!europa.eng.gtefsd.com!emory!rsiatl!ke4zv!
gary@network.UCSD.EDU
Subject: Software Protocol Analyzer?
To: packet-radio@ucsd.edu

In article <C3qtK3.Do6@ms.uky.edu> hgpeach@ms.uky.edu (Harold Peach) writes:
>Does anyone know of a software package that can analyze packets received
>using a TNC in KISS mode?
>
>We have a local packet-type signal that I would like to identify. It
>appears to be 1200 baud, BEL-202 (1200/2200), but possibly non-NRZI. I
>was hoping to locate something that could at least determine the call sign
>of the packet station, not necessarily the information in the packet.
>--
>Harold G. Peach, Jr.   ><>   N4FLZ   _%   hgpeach@s.ms.uky.edu

Well NOS will allow you to monitor the channel, including ill formed
packets using the highest level of the trace command. However, if the
transmissions aren't NRZI it's going to be difficult to make sense of
them since the hardware in the TNC is going to treat them as if they
were. The NRZI conversion is done in hardware on a regular TNC. The
Baycom module, with the NOS driver, might do the job with a little
hacking of the driver code.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

Date: Thu, 11 Mar 1993 11:59:27 GMT
From: noc.near.net!lynx!random.ccs.northeastern.edu!acm139@uunet.uu.net
Subject: WANTED: KA9Q source code
To: packet-radio@ucsd.edu

The subject says it all. What FTP site has it? Or, could someone please
e-mail me a copy of it? I've search many FTP sites via Archie and Gopher.

Thanks much in advance.

==
| Scott Ehrlich   Internet: wy1z@splinter.coe.northeastern.edu |
| Amateur Radio: wy1z   Packet Radio: wy1z@k1ugm.ma.usa.na
         |
==

Date: 11 Mar 93 17:19:00 GMT
From: usc!zaphod.mps.ohio-state.edu!ub!acsu.buffalo.edu!ubvmsb.cc.buffalo.edu!

v087jsfu@network.UCSD.EDU
Subject: what are pros/cons of Baycom vs. Poor Man's Packet
To: packet-radio@ucsd.edu

Just wanted to know, (I don't think this is a FAQ). What are
the pros and cons of Baycom and Poor Man's Packet? Is Poor Man's
Packet better than Baycom with the A&A modem? How does Poor Man's
Packet work?

Date: Thu, 11 Mar 1993 20:42:10 GMT
From: gulfaero.com!ux1.cso.uiuc.edu!news.cso.uiuc.edu!uxa.cso.uiuc.edu!
btbg1194@network.UCSD.EDU
Subject: what are pros/cons of Baycom vs. Poor Man's Packet
To: packet-radio@ucsd.edu

In article <C3qIoH.Gut@acsu.buffalo.edu> v087jsfu@ubvmsb.cc.buffalo.edu (Danny
Anderson) writes:
>Just wanted to know, (I don't think this is a FAQ). What are
>the pros and cons of Baycom and Poor Man's Packet? Is Poor Man's
>Packet better than Baycom with the A&A modem? How does Poor Man's
>Packet work?

1) I don't know anything about the A&A modem.
2) Both Baycom and PMP are software TNC's designed to work with a simple
   modem circuit based on the TCM3105 modem chip. Both work with PC's.

3) Baycom uses the serial port for talking to the modem circuit. It was
   written by some German guys... it has an extra "monitor" window to allow
   you to monitor packet traffic while you are connected. The documentation
   is poorly translated from German. It is not compatible with some PC serial
   port hardware (including mine, I think), and there is no source code
   available.
   Because Baycom uses the serial port, the modem circuit requires an extra
   "buffer" chip to bring the RS232 +/-12 V line levels down to TTL (?) levels
   (+/- 5V) for the modem chip.

4) PMP uses the parallel port to connect to the modem circuit. It was
   written by Andy Payne while he was at Cornell (N8KEI), and the complete
   C source code is available for it... with some well-modularized sections
   on AX.25 packet handling. Because the parallel (printer) port is already
   a TTL level port, a buffer chip is unnecessary between the computer and
   the modem circuit. (Kevin Feeney (call?) was the hardware designer for
   this circuit... PMP was described in a July 1991 (?) 73 magazine article.)

5) I use PMP, and am happy with it. It uses the full available working
   memory on your machine to store the traffic scrollback buffer... it allows

you to save the entire scrollback buffer to a file or to turn file capture
on and off at will. It uses bold lettering to distinguish the commands
that you type from the traffic that is flowing on your screen... it keeps
track of error statistics which you can view at will as well as a heard
buffer which you can view at will. There is also a cute little packet
queue status display to show you how many packets are outstanding
(pending acknowledgement).
If I could change it, I would find some way of allowing the user to
escape to DOS briefly to get file directory listings or for composing
messages to upload (which can be more efficient than typing them
interactively when there is a lot of traffic, because you can't type
when PMP is trying to decode packet traffic). Otherwise, I am quite
happy with PMP...

6) Some day I would like to give Baycom another try. I use the Ramsey
packet modem kit which can be wired for both Baycom and PMP at the
same time (I think).

73 de KB8CNE, Brad Banko
Urbana, IL

--
Brad Banko; Dept of Physics; U of Illinois; b-banko@uiuc.edu
===
See one. Do one. Teach one.   73 de kb8cne @ n9lnq.il

Date: Fri, 12 Mar 1993 06:37:44 GMT
From: usc!zaphod.mps.ohio-state.edu!darwin.sura.net!rouge!cfm1471@network.UCSD.EDU
To: packet-radio@ucsd.edu

References <1993Mar9.074711.12621@usl.edu>, <1993Mar9.135148.11313@ke4zv.uucp>,
<1993Mar10.153033.167636@locus.com>
Subject : Re: What is best radio to use for 9600 buad?

Dana Makes a good point about the use of the VHF MVP's for 9600b.
Dana, with the correct mods, one that does include the use of a 10k pot
in line of the input audio, so as to not over-deviate, works great.
Our packetcluster backbone here uses 4 of them, two in lowpower (radio only)
and two in highpower (excess of 400w) and we have had no problems at all.
They have been connected successfully to both the K9NG and G3RUH modems in
either MFJ 1270's or Kantronic DataEngines. The base mod does NOT utilize
the mic jack at all.

About the 70cm radios, they function equally well. The same base mods are
used and the same modems are working fine, and have been for the past 2 years

on several systems, mine included. The reason that i started the topic of
using the MVP is because of its surplus cost, as compared if someone wanted
to go out and buy the 250-275 dollar Alinco, which i have heard works great
not to mention. Also the fact that the radio is darn near lightning (knock
on wood) proof, with a DIRECT hit on two of them in the past, and not so
much as a blink from the radios, but the computer stuff did not fare as well!

Overall with the correct mods, the price is right, they're tough as all get
go and work pretty darn good!

73
Charlie

==
Charles Morrison	cfm1471@ucs.usl.edu	These are my views,
KI5XP	ki5xp@ucs.usl.edu	NOT anyone elses!
U. of S'Western	ki5xp@ki5xp.aara.org	But who cares?
La.	KI5XP @ K5ARH.LA	
Lafayette, La 70506		
==

Date: Thu, 11 Mar 1993 22:22:04 GMT
From: usc!cs.utexas.edu!csc.ti.com!tilde.csc.ti.com!m2.dseg.ti.com!ernest!cmptrc!
mitch@network.UCSD.EDU
To: packet-radio@ucsd.edu

References <1993Mar8.134605.3827@ke4zv.uucp>,
<1993Mar10.051114.19531@afterlife.ncsc.mil>, <1993Mar10.144036.18405@ke4zv.uucp>p
Subject : Re: just wondering?

I was wondering what yall thought of the mfj tnc's. I've asked around here
a little and most people here don't seem to like them much. I'm thinking about
one because they are cheaper than any of the other new tncs. The main gripe
is that they don't connect very well to other makes of tnc's.. if its another
mfj then your ok, if not, then you may have problems..

 thanks!
 Mitcheal
 KA5SOI
 (tech+ upgrading to general and beyond!)

Date: Thu, 11 Mar 1993 21:48:49 GMT
From: usc!howland.reston.ans.net!gatech!kd4nc!ke4zv!gary@network.UCSD.EDU
To: packet-radio@ucsd.edu

References <1993Mar9.074711.12621@usl.edu>, <1993Mar9.135148.11313@ke4zv.uucp>,
<1993Mar10.153033.167636@locus.com>
Reply-To : gary@ke4zv.UUCP (Gary Coffman)
Subject : Re: What is best radio to use for 9600 buad?

In article <1993Mar10.153033.167636@locus.com> dana@lando.la.locus.com (Dana H.
Myers) writes:
>
>I agree with Gary that the MVP is an excellent radio. There's plenty
>of room in the front end casting to mount a GaAsFET pre-amp in series
>with the receiver lead; I used the little Hamtronics board. It makes
>the receiver quite hot and still relatively crunch-proof. On a mountain
>top, though, you probably wouldn't want to use a pre-amp.

I use the Hamtronics *helical* filter preamp externally for use with
the repeater MVP. Their unfiltered preamp crunches badly in high RF
sites and the optional GE preamp is of little use. The Hamtronics
helical unit is superb once you get it tuned right. Tune for best
SNR not best gain.

>I would think that feeding the 9600 baud signal directly to the phase
>modulator would result in a pre-emphasized signal with effectively no
>low frequency response. Using the CG input avoids the distortion the
>mic audio would likely introduce, but it still results in a PM signal.
>
>Now, I haven't looked at the UHF MVP; maybe it does FM the rock for
>CG, but the VHF certainly doesn't. That's why my MVP is a 1200 baud
>radio. It may be that a 9600 modem "works" acceptably with a PM radio
>under some circumstances, but I don't think it is optimum.

Argh! Comes from posting when sleepy. The CG input will be pre-emphasized
by the phase modulator of course. However, this doesn't appear to be
as big a drawback as we've thought. While there can be no DC component
to a PM modulated signal, using the CG input does allow very low
frequency AC components to pass. That seems good enough.

There remains a potential interoperability problem with FM radios due to
the different "twists" introduced by bypassing pre-emphasis in the *FM*
modulators. If the FM rigs don't bypass pre-emphasis, their received
output at the discriminator is identical, except for any DC component,
to that of a PM modulated signal. The problem, of course is getting
proper and consistent pre-emphasis all the way down to near DC. With
PM it's automatic, but with FM it's difficult. Therefore it isn't normally
used with 9600 baud FM radios, and therein lies the interoperability problem.

The MVPs seem to work ok in a consistent network, but mixing in FM
radios may cause problems. The extant modems would rather see a

flat power spectrum as well, so effective range is limited with PM
rigs because of the degradation in modem response caused by the twist
unless a de-emphasis filter is used on the output. Now the same problems
of low frequency response plague these filters too. With strong signals
this doesn't seem to be a problem, but when the signals drop below 20 db
quieting the error rate goes up quickly. We tend not to engineer such
marginal paths.

An ideal de-emphasis network in front of the PM modulator would
seem to be the answer. While that's hard with simple RC networks,
an active opamp based roll off filter should do the trick. Again
I would note that true DC response *seems* to be a non-issue under
normal conditions with a data scrambler. That's just a real world
opinion with no theoretical backing.

The MVP is such a good radio in high RF environments that it would
be worthwhile to convert it to true FM if that seems necessary. The
temperature compensation input is the obvious choice, but it's response
is both limited and somewhat non-linear. A different varactor and
bias network should solve that, though temperature compensation would
now be wrong, seems a good place for another opamp used as a weighted
summing network.

The plastic cased Maxars don't seem to hack high RF sites very well.
I have a few, but won't put them at sites with high power transmitters,
the Micor is a better Motorola choice, but it's somewhat bulky. We're
working with small GE tower cabinets and the small size of the MVP is
very valuable.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | |

Date: Thu, 11 Mar 1993 23:09:00 GMT
From: usc!howland.reston.ans.net!paladin.american.edu!darwin.sura.net!rouge!
jpd@network.UCSD.EDU
To: packet-radio@ucsd.edu

References <1993Mar9.074711.12621@usl.edu>, <1993Mar9.135148.11313@ke4zv.uucp>,
<1993Mar10.153033.167636@locus.com>
Subject : Re: What is best radio to use for 9600 buad?

In article <1993Mar10.153033.167636@locus.com> dana@lando.la.locus.com (Dana H.

Myers) writes:
...
>However, the VHF MVP is not as well suited to 9600 baud operation as
>Gary would suggest. The MVP exciter is a phase modulated design.
>There is no method normally provided to frequency modulate the radio;
>the temperature compensation line to the channel element does not
>pull the frequency far enough or linearly enough for 9600 baud packet.
...

Dana, we are using UHF MVPs locally for 9600 baud packet with no
difficulty. They interoperate with the Yaesu FT736R equipped with
mods for the 9600 baud pacsats.

The Phase modulation concern is unwarranted ... you'll want to bypass
the modulator completely. We supply the nb-96 modem output, with
a DC bias added, into the temp comp input of the xtal pkg. We looked at
the spec and saw that the temp comp. would be unlikely to get activated
at temps encountered in La. I can supply actual details if needed.
I do see some drift but only because my ft736 has a discriminator
meter! I equipped mine with 20 kHz IF filters and it works fine with the
MVP.

73,

--
-- James Dugal,   N5KNX   Internet: jpd@usl.edu
Associate Director   Ham packet: n5knx @k5arh (land), UO-22 (sat.)
Computing Center   US Mail: PO Box 42770 Lafayette, LA 70504
University of Southwestern LA.   Tel. 318-231-6417 U.S.A.

Date: Thu, 11 Mar 1993 13:28:26 GMT
From: rit!isc-newsserver!ultb!cep4478@cs.rochester.edu
To: packet-radio@ucsd.edu

References <1993Mar8.134605.3827@ke4zv.uucp>,
<1993Mar10.051114.19531@afterlife.ncsc.mil>, <1993Mar10.144036.18405@ke4zv.uucp>@
Subject : Re: just wondering?

In article <1993Mar10.144036.18405@ke4zv.uucp> gary@ke4zv.UUCP (Gary Coffman)
writes:
>Actually I've found the MFJ1270 to be the *quietest* of the TNC2
>clones.

I have noticed something else, though. The 1274 that I have puts out a
LOT more RFI when it's in KISS mode than when in ordinary TNC mode. I
haven't figured out why this is yet. I suspect that it has something to do

with the halt/wait for interrupt instruction in the Z-80 - either the KISS
software doesn't use it and is therefore constantly polling and running in
tight loops, or perhaps the KISS software DOES use it and it causes supply
current changes that create noise. This is a theory that I have spent zero
time trying to prove, so it may be something else all together.

Chris
--
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End of Packet-Radio Digest V93 #65
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